

REMARKS

Support for the amendment to the claims is found in the specification or in the previously submitted claims as supported by the specification. Support for the amendment to claims 1 and 18 is found in the specification at page 9, lines 33-35, continuing onto page 10, lines 1-5, and at page 14, lines 34-35, continuing onto page 15, lines 1-5. Claims 17 and 58 have merely been redrafted in independent format from the original dependent format, thereby not narrowing the scope of the claim in any manner but just representing the claims in a different format. Claim 54 is amended to correct some wording changes for clarity without narrowing or changing the scope of the claims. Claim 22 has been amended for a typographical error.

CLAIM REJECTIONS UNDER 35 U.S.C. 112

Claims 1-16, 18-44, 49-53 and 59-61 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The Office Action noted that the claims fail to particularly point out and distinctly claim the subject matter which applicants regard as the invention. It was noted that the claims fail to set forth the specific compositions of the first coating surface and/or the second coating surface and/or at least one breaker layer and/or the grated color suppression layer.

It is respectfully submitted that claims can use functional language as used in claims 1-16, 18-44, 49-53 and 59-61. The use of functional language to claim an invention is specifically approved by statute at 35 U.S.C. 112 third paragraph, the patent office and the courts, particularly where, as here, it is obviously impossible to enumerate all possible combinations of different first and second layers in a coating where the breaker layer can interrupt crystal structure. Functional language in claims is not objectionable per se so long as it avoids problems of undue breadth and vagueness. The functional language can not cause a claim to

(1) cover more than the inventor has invented and disclosed in the specification, or (2) define the invention in a vague and ambiguous manner. The claims rejected above cover the invention of the inventors as described in the specification. Also the claims are not vague or ambiguous considering the disclosure in the specification.

Claim 1 is amended and shows the first coating surface has crystallinity and has a second coating surface which functions as the second coating surface, and the coating has at least one breaker layer located between the first and second coating surfaces where the breaker layer is configured to interrupt a crystal structure of the coating. Claim 6 is an independent claim which gives further functional language for the coating in that the first layer is substantially crystalline as is the second layer and the breaker layer is between the first and second layers and is configured to prevent or at least reduce epitaxial growth of the second layer on the first layer. Further, claim 16 is an independent claim showing a coating where the first layer is substantially crystalline and comprised of antimony doped tin oxide and has a specific thickness range and the second layer is a fluorine-doped tin oxide having a particular thickness range and a breaker layer is between the first and second crystalline layers and prevents or at least reduces epitaxial growth in the second layer. This is also a situation for claims 18, 26, 41, 42, 49, 54, 59, 60 and 61 which are all independent claims. These claims present at least functional limitations for the elements and in some of these independent claims particular chemical composition and thicknesses are also presented.

Therefore, it is respectfully submitted that claims 1-16, 18-44, 49-53 and 59-61 comply with 35 U.S.C. 112, second paragraph.

Applicants' attorney acknowledges the indication of allowable subject matter in claims 1, 6, 16, 18, 26, 41-42, 49, 59-61 and in claims 2-5, 7-15, 19-25, 27-40, 43-44, and

50-53 if rewritten or amended to overcome the rejection of 35 U.S.C. 112, second paragraph. As noted above, the rejection under section 112, second paragraph, ~~is respectfully traversed~~ for all of these claims. As noted above, it is respectfully submitted that this rejection is traversed and these claims are in allowable condition now.

Applicants' attorney also notes from the Office Action the indication that claims 17 and 58 are objected to as dependent claims from a rejected base claim, and that these claims would be allowable if rewritten in independent form. It is respectfully submitted that these claims are rewritten in independent form. Claim 58 is rewritten with a few non-narrowing wording changes to clarify the second coating region and the transition region. It is respectfully submitted that the rewritten claims 17 and 58 in independent format does not narrow the scope of the claim in any manner, and the rewriting is only a change in format from dependent to independent form keeping the same scope.

CLAIM REJECTIONS - 35 U.S.C. 103

Claims 45-48 and 54-57 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,218,018 to McKown ('018).

Claim 45 is an independent claim which notes the antimony doped tin oxide layer has at least two stratas of different antimony concentrations, in particular where the first and second strata have a particular thickness. It is respectfully submitted that the '018 patent does not teach or suggest the two stratas of the particular material at such thickness ranges. If the Examiner is relying on personal knowledge or knowledge of somebody in the United States Patent and Trademark Office in regards to layers like those of McKown forming two stratas, the Examiner is requested to make the information of record by filing an affidavit in conformance with the rules of practice. Therefore, it is respectfully

submitted that claim 45 and the dependent claims 46-48 are unobvious and patentable over the '018 patent.

In regards to claims 54-57, it was noted that the '018 patent would make it obvious for one of ordinary skill in the art to have a transition between the first coating layer and the second coating layer of the '018 patent because the dopant gradient allows for variation in the absorption and reflection characteristics.

It is respectfully submitted that independent claim 54, as amended, would not be obvious from the teachings and suggestions of the '018 patent nor would the dependent claims 55-57. It is respectfully submitted that when there is a change in composition of a material being deposited, the different material has to come from a different source. Therefore there could be a complete cutoff of the old material to allow for deposition of the new material from this different source. There is no teaching or suggestion in the '018 patent that there is a transition region where both of the dopants are present in changing concentrations, one to the other, as opposed to a complete cutoff of one material and the starting of the new material. If the Examiner is relying on personal knowledge or knowledge of somebody else in the United States Patent and Trademark Office for suggesting a transition region in the '018 patent as opposed to a complete cutoff of the old material when starting the presence of the new material, the Examiner is asked to make that information of record in accordance with the rules of practice for filing an affidavit. The '018 patent does not even use the word "transition" or "transitioning" to even suggest a transition region. Therefore, it is respectfully submitted that claim 54 and the dependent claims 55-57 are unobvious and patentable over the '018 patent.


Accordingly in view of the above amendments, explanations and remarks, reconsideration and allowance of the pending claims are respectfully submitted.

Appln. No. 09/521,845

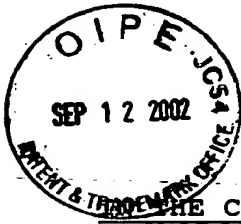
Attached hereto is a marked-up version of the amendments to the claims made by the instant amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

THE CLAIMS

Please amend claims 1, 17, 18, 22, 54 and 58 as follows:

1. (Amended) A coating comprising:
a first coating surface having crystallinity;
a second coating surface; and
at least one breaker layer located between the first and second coating surfaces, the breaker layer configured to interrupt a crystal structure of the coating.

17. (Amended) A [The] coating, comprising:
a substantially crystalline first layer comprising antimony doped tin oxide, the first layer having a thickness of about 1200 Å to about 2300 Å;

a substantially crystalline second layer deposited over the first layer, the second layer comprising fluorine doped tin oxide and having a thickness of about 3000 Å to about 3600 Å; and

a breaker layer located between the first and second crystalline layers, the breaker layer configured to prevent or at least reduce epitaxial growth of the second layer on the first layer [according to claim 16], wherein the breaker layer has a thickness of about 100 Å to about 1000 Å and the breaker layer comprises tin oxide with at least one of phosphorous and silica.

18. (Amended) A coated article, comprising:
a substrate; and
a coating deposited over at least a portion of the substrate, the coating comprising:
a first coating surface having crystallinity;
a second coating surface; and

at least one breaker layer located between the first and second coating surfaces and configured to interrupt a crystal structure of the coating.

22. (Amended) The coating according to claim 18, wherein the second coating surface comprises at [lease] least one metal oxide.

54. (Amended) A coated article, comprising:
a substrate;
a first coating region deposited over at least a portion of the substrate, the first coating region comprising a metal oxide and a first dopant;
a second coating region as a transition region deposited over the first region, the transition region comprising a metal oxide, the first dopant, and a second dopant, with the ratio of the first dopant to the second dopant constantly changing with distance from the substrate;
and
a third coating region deposited over the second coating region, the third coating region comprising a metal oxide and the second dopant.

58. (Amended) A [The] coated article [according to claim 54] comprising:
a substrate;
a first coating region deposited over at least a portion of the substrate, the first coating region comprising a metal oxide and a first dopant;
a transition region deposited over the first region, the transition region comprising a metal oxide, the first dopant, and a second dopant, with the ratio of the first dopant to the second dopant constantly changing with distance from the substrate;

a second coating region deposited over the transition region, the second coating region comprising a metal oxide and the second dopant, and [including]

at least one breaker layer located between at least two of the first region, transition region, or second region.